WHAT IS CLAIMED IS:

1. A method of improving modulation transfer function through scanning a scan object with a stagger sensor, wherein the stagger sensor includes a plurality of sensing modules, the method comprising:

retrieving reference digital data; and

processing captured digital data of computed pixel after a scanning of the scan object.

2. The method of claim 1, wherein each sensing module includes a plurality of light-sensing cells and each light-sensing cell is capable of scanning a plurality of computed pixels.

3. The method of claim 2, wherein processing the captured digital data further includes:

if a first light-sensing cell of a first sensing module contains a reference digital data and a second light-sensing cell of a second sensing module and the first light-sensing cell has some overlapping in a forward scanning direction, digital data of the computed pixel in the region in the second light-sensing cell having no overlapping with the first light-sensing cell is obtained using a formula: A(X) = F(X)*N-A(X-1)-A(X-2)-...-A(0)*(N-X); and

if a first light-sensing cell of a first sensing module contains no reference digital data and a second light-sensing cell of a second sensing module and the first light-sensing cell has some overlapping in the forward scanning direction, the digital data of the computed pixel scanned by the second light-sensing cell having no overlapping with the first light-sensing cell is obtained using a formula: A(X) = F(X)*N-A(X-1)-A(X-2)-...-A(X-N+1),

where X is a desired computed pixel, N is a number of computed pixels included in a light-sensing cell, A(X) is digital data corresponding to an X^{th} computed pixel, A(1) is digital data of the first computed pixel, and F(X) is digital data obtained after a scanning operation including computed pixels captured by the light-sensing cell.

4. The method of claim 3, wherein the digital data in the overlapping region between the second light-sensing cell and the first light-sensing cell contains identical digital data.

5. The method of claim 1, wherein the reference digital data includes digital data obtained from unused light-sensing cells in the sensing module.

6. The method of claim 1, wherein the sensing module inside the stagger sensor has a slight shift in position relative to each other.

7. The method of claim 1, wherein the stagger sensor corresponding to a sense primary color has sensing modules positioned in parallel to a long axis, wherein each sensing module has a first light-sensing cell of a first sensing module and a second light-sensing cell of a second sensing module, both having a first end on a vertical line in an identical position along the long axis but each has a second end on a vertical line in a different position along the long axis.

8. A method of improving modulation transfer function through scanning a scan object with a stagger sensor, wherein the stagger sensor includes a plurality of sensing modules, a first light-sensing cell of a first sensing module and a second light-sensing cell of a second sensing module have a first end on a vertical line in the same position along the long axis but each has a second end on a vertical line in a different position along the long axis, the method comprising:

obtaining digital data of a first computed pixel using a difference in scanning region between the first light-sensing cell and the second light-sensing cell; and

processing the digital data of a plurality of subsequently computed pixels after a scanning of the scan object according to the digital data of the first computed pixel.

9. The method of claim 8, wherein each light-sensing cell is capable of scanning a plurality of computed pixels.

10. The method of claim 9, wherein processing the digital data of subsequently computed pixels further includes:

when the second light-sensing cell and the first light-sensing cell have overlapping region in a forward scanning direction, digital data of the computed pixel scanned by the second light-sensing cell having no overlapping with the first light-sensing cell are obtained through a formula: A(X) = F(X)*N-A(X-1)-A(X-2)-...-A(X-N+1),

where X is a desired computed pixel, N is a number of computed pixels included in a light-sensing cell, A(X) is digital data corresponding to an X^{th} computed pixel, A(1) is digital data of the first computed pixel, and F(X) is digital data obtained by scanning using light-sensing cells included in capturing the computed pixels.

11. The method of claim 10, wherein the digital data in the overlapping region between the second light-sensing cell and the first light-sensing cell contains identical digital data.

12. A stagger sensor for improving modulation transfer function, wherein the stagger sensor corresponding to a sense primary color has sensing modules positioned in parallel to a long axis, wherein a first light-sensing cell of a first sensing module and a second light-sensing cell of a second sensing module both have a first end on a vertical

line in the same position along the long axis but each has a second end on a vertical line in a different position along the long axis.

13. The stagger sensor of claim 12, wherein the first light-sensing cell has a vertical width along the long axis greater than any other light-sensing cell in the first sensing module.

14. The stagger sensor of claim 12, wherein the first light-sensing cell has a vertical width along the long axis smaller than any other light-sensing cell in the first sensing module.

15. The stagger sensor of claim 14, wherein the first light-sensing cell includes a plurality of scanning spaces.